National Aeronautics and Space Administration
Goddard Space Flight Center

Inside Wallops

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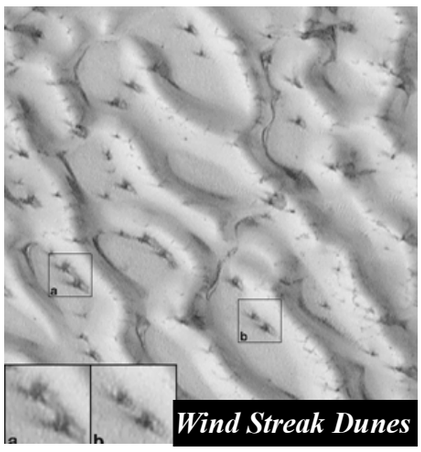
Sharpest-Ever Mars Images

Newly released images from NASA's Mars Global Surveyor show that the red planet is a different place today than it was two years ago when the spacecraft arrived — a world constantly reshaped by forces of nature including shifting sand dunes, monster dust devils, wind storms, frosts and polar ice caps that grow and retreat with the seasons.

"Mars is a cold, dry desert, but our camera has shown it is far from being a stagnant place," said Dr. Michael Malin, principal investigator for the Mars Global Surveyor camera at Malin Space Science Systems, San Diego, CA. "Over the past few months, we have captured a unique record of seasonal and meteorological events, which demonstrates that Mars is active and dynamic today."



Wind Streak Dunes

The spacecraft's camera monitors the planet's weather on a daily basis from orbit, just like weather satellites on Earth. The weather has been particularly active during the past two months, as spring arrived in the southern hemisphere and autumn approached in the north.

"Storm clouds have been brewing over the north polar ice cap all through July, and soon, ever-increasing portions of the north polar cap will be plunged into wintertime darkness," Malin said. "As the season changes rapidly, clouds will cover much of the northern plains and it might begin to snow as the polar cap expands."

In other regions of Mars, dust devils are the prevailing weather story. Dust devils result from spinning vortices of air that arise when the ground is heated and general wind flow is light. On Earth they are relatively small features, but on Mars, dust devils are thought by some to be a major transporter of the fine, pinkish dust that gives the sky its unearthly brownish color, as seen by the Mars Pathfinder and Viking landers. Dust devils may also help initiate the seasonal raising of dust over wide areas of Mars.

Sand dunes also are giving Mars scientists some new insights as to how Mars' seasonal polar ice caps retreat at the end of each winter as seasonal warming occurs. The most dramatic views show patches of dark sand poking through fields of carbon dioxide frost. First seen in 1998 in the north polar region, the same features have been seen this year on dunes near the south pole.

"These pictures look like aerial photographs of dunes on Earth," Malin said. "They are so unusual in this context that we thought for a while that we were looking at a process that involves small 'explosions,' but the new images showed that wind was responsible for the streaks we were seeing."

A variety of new images of Mars is available on the Internet at: http://www.msss.com/

Goddard's ISO Registration Audit - Just Days Away! Are You Ready?

ISO Registration Audit: August 23 - 27, 1999

The auditors will be at Wallops on August 25 and 26.

GOES-L Launch Scheduled for October

The launch of Goddard-managed GOES-L spacecraft has been delayed until no earlier than October 14.

The launch was originally delayed to allow NASA and NOAA time to review recent launch failures.

Those investigations are not expected to be completed in time to support a GOES-L launch before the next eclipse season, which runs from late August until mid October. During that time, the Earth would be between the sun and the satellite for a maximum of 72 minutes each day. The solar arrays would not be in sufficient sunlight for the planned orbit-raising sequence.

The GOES system is a basic element of U.S. weather monitoring and forecast operations and is a key component of NOAA's National Weather Service operations and modernization program.

Spacecraft and ground-based systems work together to accomplish the GOES mission of providing weather imagery and quantitative sounding data that form a continuous and reliable stream of environmental information used for weather forecasting and related services.

NASA ER-2 Operates from Wallops

The NASA ER-2 aircraft is currently at Wallops conducting East Coast flight operations to obtain high altitude remote sensing data. The aircraft is operated by the Airborne Science Branch of the NASA Dryden Flight Research Center. Dryden is located at Edwards Airforce Base, CA.


NASA Photo

The ER-2 is used as a platform for a wide variety of high-altitude science experiments flown over various parts of the world, including earth resources, celestial observation, atmospheric chemistry and ocean processes studies. The aircraft also is used for electronic sensor research and development, satellite calibration and data validation. The aircraft is capable of carrying up to 2,600 pounds of experiments in a nose bay, the main equipment bay behind the cockpit, two wing-mounted pods and small underbelly and trailing edge pods.

Most ER-2 missions last about six hours and cover a range of about 2,200 nautical miles, including about five hours at a cruise altitude of 65,000 to 70,000 feet. The aircraft is capable of longer missions of up to eight hours duration and covering 3,000 nautical miles if required.

The ER-2 cruises at a speed of 410 knots, or 467 miles per hour, at altitude. NASA's ER-2 has a wingspan of 103 feet, is 63 feet long and the top of the vertical tails is 16 feet above ground when the aircraft is on its bicycle-type landing gear. The ER-2 is powered by a single General Electric F-118 turbofan engine rated at 17,000 pounds thrust.

Monthly Weather Summary

by Jim Buchanan, Meteorologist

Parched!

Yes, July was HOT! Yes, July was DRY! Record heat and more than an inch below normal rainfall left the Wallops area parched at the end of July.

A record high temperature was set twice during the month and one was tied. As proof that the Independence Day weekend was "hotter than a firecracker", a new record high temperature of 97° was set on July 5 and 6. The high of 94° for July 28 tied the record for that date. Daily highs for July averaged 86.5°, which is 1.5° higher than normal. Nighttime lows also were warmer than normal with an average temperature of 71°, which is over 2° above normal. These higher than normal temperatures resulted in an average temperature for July of 79°, which is almost 3° above normal.

During July, there were 10 days when temperatures were 90° or higher, 21 nights when the low temperature was above 70° and one night when the low temperature was 81°. During the heat wave, there was a record low set for the month when the mercury dipped to a very comfortable 59° on July 15.

Even with all the heat, the harsh weather factor for July was the lack of rain. Although there was measurable rainfall on 11 days, much of that was one-tenth of an inch or less. The most rainfall recorded in a 24-hour period was on .68 of an inch on July 22. Total rainfall for the month was only 2.12 inches, which is 1.82 inches below normal. From the beginning of the year through the end of July, rainfall recorded at Wallops totals 21.91 inches - 3.17 inches below the usual 25.08 inches we normally receive.

Looking forward to September, the possibilities for tropical activity come to a peak and begin to decline and we welcome a cooling down period following a very hot summer. Temperature averages for September are 78° for highs and 61° for lows. Even with the cooler temperatures for September there are 19 days with recorded highs of 90° or better with the highest being 96° on September 11. The coolest nighttime low for the month is 40°, recorded on September 30. Measurable rain usually occurs on 7 days with an average rainfall of 3.35 inches for the month.

The Atlantic tropical season has been very quiet so far with only one weak tropical storm. The updated forecast still calls for 14 named storms and 9 hurricanes with four of those to be intense. With this in mind, it's a good idea to keep emergency supplies stocked and evacuation plans up to date. Having experienced last winter's ice storm, many folks are getting ready for the hurricane season and Y2K. Stores report that generators are a hot ticket item!

FABULOUS STEAK DINNER

7 p.m. August 27
Building F-3

$15.00 per person

Steak (grilled to order)
Tossed Salad
Baked Potato
Corn on the Cob
Bread
Dessert
Beverages

Tickets are available from Sandy Gunter, x1454 and Pam Milbourne, x2020.

American Cancer Society Video on Self-Breast Exam

Aug. 31
1 p.m.
Bldg. F-160

Seating is limited. Call the Health Unit, x1766 to reserve a seat.

From Aug. 11 issue of FEDweek……

GOP Vows No Government Shutdown

Congressional Republicans have promised to support legislation to remove the possibility of a government shutdown this year. President Clinton and the GOP are trading threats over a massive Republican-proposed tax cut, which Clinton has said he'd veto. Republicans said they would fund the government at present levels for up to a year to prevent any chance of a shutdown brought about by a veto of the proposed tax package. A similar fight closed the government twice in 1995, triggering furloughs and throwing many federal operations into turmoil.

2000 Retiree Raise at Least 1.8%

Federal retirees will receive a minimum 1.8% cost of living adjustment next January. That will beat last January's 1.3% increase. But the increase likely won't reach 2%, experts believe. The final figure will be released in October.

For Sale - 1995 Ford Thunderbird, very good condition, 62k miles. Call Shanna Watson, (757) 824-4599.

Employee Assistance Program

Having both a full-time job and a full-time personal life can be tough at times. Balancing the demands of each can be a real challenge. The goal of the EAP is to help employees and family members cope with problems that effect emotional well-being, whether they stem from work or from home.

The idea is to improve the employee's quality of life and at the same time create a healthier workplace for the employee. Brief therapy and problem solving are the focus of attention.

Many issues, if addressed in the early stages, avoid becoming serious problems in need of serious solutions. For more information or to make an appointment, call the Employee Assistance Program at x66-4600.

Sympathy is extended to the family, friends and co-workers of ***James E. Harmon*** *who died Aug. 7 in Peninsula Regional Medical Center. Harmon was employed as a guard by Omni of New Jersey, Inc.*

STS-99 Causeway Passes

The Space Shuttle Endeavour is scheduled to launch no sooner than early October. The primary payload for STS-99 is the Shuttle Radar Topography Mission (SRTM). This radar system will gather data that will result in the most accurate and complete topographic map of the Earth's surface that has ever been assembled.

Requests are now being accepted for the viewing of this launch on the causeway at Kennedy Space Center. Please submit your name and address to: Trusilla.Y.Steele.1@gsfc.nasa.gov You should receive your pass no later than 2 weeks before the launch.

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